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Georg Muenzel

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EXAMINER

VU, TUAN A

ART UNIT

PAPER NUMBER

2193

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Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 09/822,300 | Applicant(s) MUENZEL, GEORG | |
| | Examiner Tuan A. Vu | Art Unit 2193 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to the Applicant's submission filed 5/19/2006.

Claims 1, 19, 36, 39, 41, 44, and 51 have been amended; and claims 1-52 have been re-submitted for examination.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 36-38 are rejected under 35 U.S.C. 101 because the claims are directed to a non-statutory subject matter.

The Federal Circuit has recently applied the practical application test in determining whether the claimed subject matter is statutory under 35 U.S.C. § 101. The practical application test requires that a "useful, concrete, and tangible result" be accomplished. An "abstract idea" when practically applied is eligible for a patent. As a consequence, an invention, which is eligible for patenting under 35 U.S.C. § 101, is in the "useful arts" when it is a machine, manufacture, process or composition of matter, which produces a concrete, tangible, and useful result. The test for practical application is thus to determine whether the claimed invention produces a "useful, concrete and tangible result".

As per claim 36, the claim only recites a storage medium having stored thereon an executable markup language version of an automation control program, such computer program adapted for controlling a programmable logic controller, and created using a graphical program language. The claim does not recite any data transformation or action step resulting from the storing the executable version thus recited so to make practical use thereof so as to reasonably convey that such action would yield some tangible result. As recited, the claim content can be analogized to storing a version of executable in which some program code to control data are represented in some form, such storing followed by no teaching of a possible action that would enable one skill in the art to be reasonably taught that some concrete or useful result is generated

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therefrom (*). Even though the above claimed program code is recited as being adapted for control some controller, the fact that it is only adapted for such control cannot translate into a actual action (or execution via an engine) being taken so to yield any form of result; that is, the phrase 'adapted for' merely entails that some functionality exists but remains static without being put into use. That is, the recited automation computer program amounts to two main connotations: (i) mere descriptive component by the fact that it is created using a graphical program; and (ii) a potential functionality that appears functional only in name (as in a static nomination) when the claim clearly lacks specifics as to the specific details (or implementation) of such functionality, or as to its being executed or carried out in order to transform data as real world result, as mentioned in (*). The claimed invention must convey a useful, concrete and tangible result to one of ordinary skill as it relates to the practical application, not a mere listing of non-functional elements for an intended use. As recited, the claim for only providing descriptive elements (e.g. a term representing a functionality – such as *controlling* -- without specifics on its implementation remains a static nomenclature lacking concrete function) without specifying actions performed by or using those elements -- OR components capable of carrying out any functionality thereof -- fails to provide reasonable teachings leading to a useful, concrete, and tangible result as required by the practical application test. Hence, the claim only amounts to an abstract idea for failing the requirement of the Practical Application test, hence is rejected for leading to a non-statutory subject matter.

Claims 37-38 are also rejected for failing to remedy to the deficiencies of the base claim.

Claim Rejections - 35 USC § 103

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dole, USPN: 6,634,008, in view of Hoskins et al., USPN: 6,167,406 (hereinafter Hoskins).

As per claim 1, Dole discloses a method for representing industrial automation computer program code created using a graphical programming language (e.g. col. 8, lines 22-32), the method comprising:

identifying an internal representation of an industrial automation computer program (e.g. *files and libraries, file defining methodologies... executable methodologies* - col. 7, lines 14-49; *Verilog file* – col. 8, lines 25-32; col. 8, line 63 to col. 9, line 19; col. 10, lines 32-56; col. 13, line 43 to col. 14, line 15; *netlist* – col. 14, lines 42-47; step 503 – Fig. 8; Fig. 11-12; *job steps, chain job* – col. 16, lines 5-9; col. 16, lines 53-55 – Note: all files generated from the EDA tool reads on internal representation of the automation program), the internal representation created via a graphical programming language (e.g. col. 8, lines 22-32; col. 5, lines 11-21; step 503 – Fig. 8) ; and

converting the internal representation to a markup language version of the code industrial automation computer program (e.g. Fig 10; col. 16, lines 10-47; Fig. 13).

Dole does not explicitly disclose that the industrial automation program is to control a programmable logic controller (PLC). At the time the invention was made, embedding complex system in a single chip – IC - such as endeavored by Dole (see Dole: *system-on-chip* -

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BACKGROUND) such that complex controlling micro chip functions are being embodied in integrated circuits or single chip was a known concept. In the same line of industrial work and/or circuits building/controlling as Dole (see Dole: Fig. 28) -- that is, in view of the web based methodologies by Dole to assemble block and execution of the control flow of components in a circuit design-- using a object-oriented modeling tool analogous to Dole, Hoskins not only purports design of chip assemblies (see col. 16, lines 1-10) like in the line of manufacturing such as Dole; but also demonstrate the use browser technologies and markup language, e.g. SGML and activeX, to transport application program development and related representation across platforms and to facilitate developers builder environment (e.g. col. 11, lines 50-63; col. 12, lines 47-65) and further discloses a framework to implement automation control using editing interface to implement a *ladder logic* in relation to a Programmable Logic Controller (PLC) to effect the controlling tasks (col. 12, line 66 to col. 13, line 51; Fig. 2-80). In view of the known concept that complex logic controller be embodied in one microcontroller IC type design; along with the analogous approach by Dole to use of HTML based connectivity to communicate methodologies control and design data among stations and by Hoskins' HTML-based framework to similarly facilitate developers to implement a design of a controller (as by Hoskins), such target implementation being a PLC, it would have been obvious for one of ordinary skill in the art at the time the invention was made to apply the circuit synthesis tool, control data communication and web markup conversion as taught by Dole so that the target to be designed would be a control logic of a integrated chip having control functionality of a PLC such as taught by Hoskins. One would be motivated to do so because the internet based control applied to industrial design and control as endeavor by both Dole and Hoskins can enable simultaneous

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control from multiple developers as set forth above, and using this framework as by Hoskins would enable industrial logic as perceived by Dole to target for design of PLC as one of circuitries as endeavored by Dole based on the facilitated communication as set by Hoskins.

As per claims 2-3, Dole discloses storage of the markup language version of the industrial automation computer program to be stored in computer storage device (e.g. *XML files* – col. 16, line 21-67) for transmission and being displayed for editing discloses inherent storage for transport across the internet (e.g. Fig. 5).

As per claims 4 and 5, Dole discloses converting the markup-formatted code of the industrial automation computer program to the internal representation in computer memory as a corresponding graphical programming language version the industrial automation computer program (e.g. step 527 – Fig. 13; Fig. 17-23 – Note: executing markup file via file decompression to restore *DAG or chip/block or Netlist* based synthesis files defining a circuitry job chain reads on corresponding graphical programming language).

As per claims 6-7, Dole discloses Fig. 5 and XML (e.g. col. 16, line 21-67).

As per claims 8 and 10-11, Dole discloses *step-by-step flows* and *schematic* for a circuit design being documented (e.g. col. 5, lines 11-16; col. 12, lines 5-48); hence has disclosed a graphical language comprising flowchart language and sequential flow chart (*DAG* - col. 16, lines 52-55; col. 17, lines 22-27; Fig. 23) and block diagram language (e.g. step 405-407 – Fig. 9; col. 12, lines 42-55; Fig. 8, Fig. 19, 28 – Note: *model* and *physical layout* of IC in a circuit as well as UI manipulating of block flow – see col. 5, lines 11-32 - reads on block diagram graphical type of language).

As per claim 9, Dole does not teach graphical programming language comprising a ladder logic, but as evidenced via the teachings by Hoskins, providing a ladder logic to be implemented for transmission of circuit design and flow control would also have been obvious in view of the methodologies by Dole to assemble block and execution of the control flow of components in a circuit design. But the ladder logic implementation -- so integral to programmable controller-- in the web-based approach by Hoskins for PLC application with control by multi-users has been mentioned in claim 1, making this limitation obvious in view of the rationale as set forth therein.

As per claims 12 and 14-15, Dole discloses modeling (e.g. *synthesis tool, behavioral model, schematic* - col. 12, lines 5-48; col. 15, lines 20-47; *Flow/steps 1119* -Fig. 10; Fig. 23); hence has disclosed graphical language comprising a flowchart, block diagram, and function diagram (re claims 8, 10-11) being converted into markup language and decompressed therefrom (re claims 4-5).

As per claim 13, this claim incorporates the rejection of claim 7; and would also includes the rationale to the 'ladder logic' limitation obvious in view of the rejection of claim 9.

As per claim 16, Dole discloses an tool with editor command (e.g. col. 13, lines 22-44; Fig. 4, 10, 12).

As per claim 17, Dole discloses executing circuit of design block from the XML language in corresponding graphical language version of the industrial automation computer program (e.g. step 527 – Fig. 13; Fig. 17-23 – Note: executing markup file via file decompression to restore *DAG or chip/block or Netlist* based synthesis files defining a circuitry job chain reads on corresponding graphical programming language).

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As per claim 18, see Dole's browser use (Fig. 5).

As per claim 19, this is a computer product with computer-readable medium (see Dole: col. 28, lines 6-8) for performing the same steps limitations recited respectively in claim 1; hence is rejected with the corresponding rejections as set forth in claim 1, including the rationale to address the PLC controlling function of industrial automation computer program limitation.

As per claims 20-23, refer to the rejections of claims 2, 4, 3, 5, respectively.

As per claims 25-26, and 28, refer to claims 7-8, and 10, respectively.

As per claims 27 and 31, these claims correspond to claims 9 and 13 respectively, hence are rejected using the same rationale as set forth therein, respectively.

As per claims 24, 29 and 33, refer to claims 6(for browser) and 11(for sequential chart), respectively.

As per claims 30 and 32, refer to claims 12, 15, respectively.

As per claims 34-35, refer to claims 17 and 16, respectively.

As per claim 36, Dole discloses computer-readable storage medium having stored thereon a representation of industrial automation program code as markup language version of the industrial automation computer program (e.g. col. 16, lines 10-47; Fig. 13), but Dole fails to teach that the program code is to control a programmable logic controller. However, the limitation as to this automation program adapted for an application such to control in a programmable logic controller (PLC) has been treated as obvious in view of the rationale as set forth in claim 1.

As per claim 37, see claim 7.

As per claim 38, Dole implicitly discloses coupling to remote computer system (e.g. Fig. 5).

As per claim 39, Dole discloses a computer program product for permitting a user to create industrial automation computer programs (e.g. col. 8, lines 22-32), the product comprising a computer-readable storage medium having a computer program code on it, the code comprising:

industrial automation graphical programming language code, an editor adapted to permit the user to create industrial automation computer program using graphical elements (e.g. *synthesis tool, behavioral model, schematic* - col. 12, lines 5-48; *DAG* - col. 16, lines 52-55; col. 17, lines 22-27; Fig. 23; step 405-407 – Fig. 9; col. 12, lines 42-55),

the industrial automation graphical program being stored in an internal representation during execution (*files and libraries* - col. 7, lines 14-49; *Verilog file* – col. 8, lines 25-32; col. 8, line 63 to col. 9, line 19; col. 10, lines 32-56; col. 13, line 43 to col. 14, line 15; *netlist* – col. 14, lines 42-47; step 503 – Fig. 8; Fig. 11-12; *job steps, chain job* – col. 16, lines 5-9; col. 16, lines 53-55); and

program code for converting the industrial automation computer program thus stored in the internal representation to a markup language version of the industrial automation computer program (e.g. col. 7, lines 26-42; Fig 10; col. 16, lines 10-47; Fig. 13).

Dole does not explicitly disclose that the industrial automation program is to control a programmable logic controller (PLC). But this limitation has been addressed in claim 1.

As per claim 40, Dole discloses converting industrial automation computer program from the markup language format to the internal representation (see rejection of claim 4).

As per claim 41, Dole discloses a method for communicating the logical structure of software industrial automation control data in order to permit a plurality of application developers to create applications relating to the data, the method comprising:

creating a schema defining a content model for markup language version of an industrial automation computer program system (e.g. col. 7, lines 26-42; DTD – col. 16, lines 10-20; Fig. 13; col. 16, line 65 to col. 17, line 2) converted from a graphical language version of the industrial automation computer program (*synthesis tool, behavioral model, schematic* - col. 12, lines 5-48; *DAG* - col. 16, lines 52-55; col. 17, lines 22-27; Fig. 23; step 405-407 – Fig. 9; col. 12, lines 42-55); and

posting the schema for access over the network by the application developers (e.g. Fig. 5; Fig. 13).

Dole does not explicitly disclose that the industrial automation control program is to control a programmable logic controller (PLC). But this limitation has been addressed in claim 1.

As per claims 42 and 43, refer to claim 7-8, respectively.

As per claim 44, Dole discloses a method for providing software industrial automation computer program from a system of developers coupled in a network (Fig. 5, 13), the system comprising:

accessing a markup language version of the industrial automation computer program (e.g. Fig. 10; col. 16, line 21-67), the markup language version of the computer program converted from a representation created using a graphical programming language (e.g. col. 7,

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lines 26-42; DTD – col. 16, lines 10-20 – Note: using browser technologies to create CGI-script or XML DTD file reads on using graphical programming language);

transmitting the markup language version of the industrial automation computer program over the network in connection of a client system address, thereby causing the markup-version of the industrial automation computer program to be received by the receiving system (e.g. Fig. 5, Fig. 13, 17-23).

Dole does not explicitly disclose that the industrial automation program is to control a programmable logic controller (PLC). But this limitation has been addressed in claim 1.

As per claim 45, Dole discloses client transmitting to the server data relating to the markup language version of the automation computer program, wherein the server has access to the modified industrial automation computer program in response thereto, the modified industrial automation computer program is provided in markup language version (e.g. Fig. 5-6; col. 15, line 58 to col. 16, line 4), and further comprising: transmitting the markup version modified industrial automation computer program to the client system address to be received by the client (Fig. 5; Fig. 10 – Note: Fig. 10, steps 1115, 1117 versions to select and posted to developers reads on modified industrial automation computer program or methodologies version transmitted in markup language).

As per claim 46, Dole discloses modeling to support a business application programming scheme using a modeling tool (re claim 44) but fails to disclose using mail message for communications. Official notice is taken that in an enterprise wherein multiple users are connected via the enterprise network services such that network communication and data distribution help fulfill the enterprise business applications, the use electronic mail to

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communicate data or update information was a well-known concept at the time the invention was made. The providing of electronic mail to Dole's system so as to enable multiple developers to communicate with the common framework to retrieve markup-formatted control data would have been obvious in light of the benefits related to such type of communications as suggested by the well-known concept from above.

As per claims 47 and 48, see Dole (col. 16, line 21-67; Fig. 5, 13).

As per claim 49, this claim includes a variation of claim 44, such variation considered evident in that a client can be a first or a second client in Dole's HTML communication protocol and service rendered to requesting developers, and is rejected using the rationale set forth in claim 44 to address the transmitting of control data based on the network address of the first client system, because in view of the server/client paradigm (Dole: Fig. 3-5), the markup language version is received by a first client and possibly a second client.

As per claim 50, this claim includes the same limitation of claim 4 or 40; and is rejected with the rationale used in claim 4 or 40 in conjunction with the rejection as set forth in claim 49; because in a network where markup data is distributed, rendering such data back into internal representation by a first, a second or a third client would be the same.

As per claim 51, Dole discloses a method for industrial automation control applications, comprising:

providing a computer system coupled to a network (e.g. Fig. 5);

configuring a first computer to receive over the network transmissions of data from a plurality of industrial automation developer systems (Fig. 3-5); and

receiving data from a the plurality of industrial automation computer program developer systems, the data comprising an industrial automation computer program in a markup language version (e.g. col. 16, line 21-67; step 527 – Fig. 13; Fig. 17-23), the markup language version of the computer program converted from a representation created using a graphical programming language (e.g. col. 7, lines 26-42; DTD – col. 16, lines 10-20 – Note: using browser technologies to create CGI-script or XML DTD file reads on using graphical programming language).

Dole does not explicitly disclose that the industrial automation program is to control a programmable logic controller (PLC). But this limitation has been addressed in claim 1.

As per claim 52, see claim 7.

Response to Arguments

6. Applicant's arguments filed 5/19/2005 have been fully considered but they are not persuasive. Following are the corresponding Examiner's rebut in regard thereto.

Rejection 35 USC §101:

(A) Applicant has submitted that the use of 'adapted' followed by structure capable of performing each claimed function would be proper; and that broadest interpretation has to be in light of the specifications such that the claimed 'programmable logic controller' has to be construed with the teaching of prior art including the related concepts such as *Sequential Functions Charts*, *Functions Block Diagrams* and *Ladder Logic* (Appl. Rmrks, pg. 13-23). In reply, the rejection of USC 101 has set forth clearly as to why the word 'adapted to' such as recited does not contribute in establishing functions being carried out via concrete actions so to reasonably convey that some tangible real world entities would have resulted therefrom. The current rejection stands because the arguments about the legitimacy of the phrase 'adapted'

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appear insufficient to remedy to the lack of data transformation via concrete implementation of program code and/or execution thereof with a specific output/yield in a tangible form; and the rejection has pointed to this deficiency in details. The amended 'adapted for controlling' does not particularly shed further specifics to how this 'controlling' amounts to in order to inform one skill in the art on an action or transformation so to yield a tangible result; and as set forth above, such amendment does remedy a non-statutory type of deficiency; i.e. there is lack of actual and concrete step actions (or reasonable teaching leading thereto) using what appear to be solely descriptive elements, or absence of steps for making usage of stored descriptive material to accomplish a result, whereas such result is being required to be concrete, tangible and useful in the computer art, as per the Practical Application Test.

The arguments mentioning about the Programmable Logic controller would be moot in light of the new ground of rejection.

Rejection 35 USC §102:

(B) Applicant has submitted that there is no evidence requiring an admission of '...missing descriptive material' in Dole for the Office Action to address claims 2-3 (Appl. Rmrks, pg. 25). In response, if the evidence is present in the reference, the use of inherent teaching would be unnecessary because the rationale invoking the use of inherent teaching is to establish that the missing feature even though not explicitly disclose must be there for otherwise data dependent on such feature would not be there at all. Dole via the teaching of XML files and Fig. 5 setting a network communication provide evidence to some implicit storage device for enabling XML data to be received, stored and processed. Storage of received XML data informs on the communication medium leading to storage of data received in Dole's framework; all of which

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are evidence leading to an inherency teaching. Claim 38's coupling limitation is shown via the same teachings using the XML received data in the network of Dole's Fig. 5, notwithstanding any specific description from the claim to render the term 'coupling' any more distinguishing than what is conveyed from network entities interacting with each other.

(C) Applicant has submitted that Dole fails to teach the missing limitation concerning claims 1, 19, 36, 39, 41, 44 and 51 (Appl. Rmrks, pg. 26-27). The current rejection has addressed this with a new ground of rejection.

Rejection 35 USC §103:

(D) Applicant has submitted that the Official Notice (Appl. Rmrks pg. 28) should be supported by some evidence. Following are examples of network-based framework where *Email* is among many tools to communicate between users of such framework:

Friedman, USPN: 6675353 (col. 13, middle para);

Bradley et al., USPN: 6584507 (col. 15, Table 1);

Guheen et al., USPN: 6615166 (e.g. Fig. 1L-B);

Thum et al, USPN: 6616700 (col. 10, lines 34-45).

(E) Applicant has submitted that the Office impermissibly fails to address a limitation (Appl. Rmrks, pg. 29); and in light of the new ground of rejection this argument becomes moot.

(F) Applicant has submitted that the Office Action provide where are the grounds for the conclusory assertion of the 'suggestion, motivation, or teaching in the prior art' so to justify a proper Prima Facie type of rejection (Appl. Rmrks, pg. 34). The Office Action has now establish know concept and the common endeavor by the references used; and select an aspect in both where teachings can be combined to enable a improved framework wherein industrial design of

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integrated chips can benefit of the multi-developer control and automation of methodologies to address microcontrollers or integrated circuits.

(G) Applicant has submitted that Hoskins teaches away (Appl. Rmrks, pg. 35, to top pg. 38)

That is, Applicant has submitted that Hoskins recites that HTML has proven to be inadequate and in light of cited references propounding on the differences between Java and Markup language, Hoskins teaches away from using a markup language. The rejection has been construed in accordance with the teachings by Hoskins in the context that Markup language is still the main language to transport other code applications or executable like Java or ActiveX. It is correct that while Active X (or Java) might not be markup language per se, ActiveX when combined with browser pages would still be helpful in enabling Hoskins or many analogous application framework environments to perform the purported endeavors or distributed methods that, as exploited in Hoskins' approach, are founded on combining markup technologies and the latest enhancements provided via OLE, Java programs, or ActiveX. The motivation as to use browser language platform to transport specifications or code snippets --as embedded/tagged objects --so to achieve distributed design or development of hardware circuitry has been set forth in the rejection. For one skill in the art, it would be incorrect to perceive that Hoskins for taking advantage of additional embedded ActiveX objects (written in a non-Markup language) to enhance the incorporating of needed data within browser pages for a specific purpose would teach away from the use of markup language; especially when browser or markup technology was well-known (at the time the invention was made and thus exemplified by Hoskins) and designed to embed not only text, program snippets – Javascript, CGI -- or video content, programmatic container pointing to other structure, markup content or code executable.

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Therefore, the argument denouncing the 'teach away' by Hoskins's use of Java/ActiveX for embedding objects within browser pages would be un-justified or un-convincing. The fact that Hoskins mentions about some inadequacy of markup language does not translate directly to the point where Hoskins would embed data in form of container other than browser pages, i.e. there is no teaching in Hoskins that dictates that the use ActiveX and Java automatically signifies that the use markup technology would be discarded. Besides, the rejection is purported to bring the ladder logic limitation (claim 9) or the implementation of logic controller in form of IC (claim 1) into the teachings so to render it obvious; and for this the Applicant fail to provide reasons as to why the combination as set forth in the rejection would be improper. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

(H) Applicant has submitted that Dole is not directed in analogous art with the Programmable Logic controller of the invention (Appl. Rmrks, pg. 38-pg. 39, top). As set forth above, the rejection has been based on the fact that industry automation can be circuit design/testing as by Dole and that a hardware circuit being targeted in Dole's automation application can be a PLC. That is, it was a well known concept that PLC in terms of hardware embodiment entails a integrated controller usually in a form of a IC or some chip known a microcontroller, at the time the invention was made; and a substantial part of this has been described or alluded to in the Applicant's Remarks as set forth in pages 15-21 (section A: *Programmable Logic Controller*); hence there would be no extraneous or undue effort in making the connection between the IC

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design and control framework by Dole to the PLC framework by Hoskins, in view of the above well known concept as partially expounded by the Applicant and Hoskins' mentioning of chip assemblies as set forth in the rejection. The rejection has set forth the reason why it would have been desirable to combine Dole markup transportation of application of data with the framework approach by Hoskins, in light of the concept that PLC usually entails the use of IC to embody its controller chip. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, based on the common endeavor as to implement industrial design as perceived from the references, the rejection has pointed to the fact that among other industrial hardware implementations, a ladder logic control (or a PLC controller chip) would be a form of control that a circuit design by Dole would be useful for so as be able to provide analysis/control of the flow of operations needed to implement the functionality of a targeted circuitry --one of which can be a PLC as well as any other form of controller circuitry.

Because Applicant's arguments are not persuasive, the rejections will stand as set forth.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A Vu whose telephone number is (272) 272-3735. The examiner can normally be reached on 8AM-4:30PM/Mon-Fri.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571)272-3719.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-3735 (for non-official correspondence – please consult Examiner before using) or 571-273-8300 (for official correspondence) or redirected to customer service at 571-272-3609.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VAT
June 5, 2006


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